



Managing Wildlife Damage: Woodchuck (*Marmota monax*)

Michael T. Mengak, *UGA Warnell School of Forestry and Natural Resources*

INTRODUCTION

The woodchuck is a large member of the squirrel family. Also known as the “ground hog” or “whistle pig”, this large rodent is found in open woods, pastures, and disturbed areas throughout most of southern Canada and the eastern United States. Woodchucks are like other marmots in North America, except for their habitat preferences. Other marmots prefer rocky, mountainous habitat but the woodchuck prefers lower elevations. Woodchucks are considered game animals in most states in the United States but are also considered nuisance wildlife by many farmers and gardeners.

TAXONOMY

Class Mammalia

Order Rodentia

Family Sciuridae – Squirrel Family

Woodchuck – *Marmota monax*

The woodchuck is the largest species in the squirrel family within its geographical range. It is the only species of marmot found in the eastern United States, though it is similar in form and function to its’ western relatives, the yellow-bellied marmot, and the hoary marmot. Originally named *Mus monax* by Linnaeus in 1758, it was first described in Maryland. Today there are 9 named subspecies but only one in the southern United States. The woodchuck is appropriately named (monax means solitary) because it is non-social during most of the year.

STATUS

Although woodchucks are considered a game animal in most states, there is usually no bag limit or closed season. Woodchucks are not protected in Georgia and may be trapped, fumigated, or shot in the instance of damage. Woodchucks flourish in response to agricultural practices and have thrived where forests have been converted to fields.



5504821

Figure 1: Adult woodchuck. Photo from University of Georgia BUGWOOD network.

DISTRIBUTION

Woodchucks occur throughout much of the Eastern and Central United States (except in the Deep South), and over much of Canada. Their western range includes Alaska, Alberta, British Columbia, and northern Washington. In Georgia, they were once restricted to the more mountainous areas of the state. However, they are expanding their range southward and now are found as far south as Macon (Bibb County) in Georgia.

NATURAL HISTORY

Identification. The woodchuck is a stout, stocky rodent with a compact body supported by short, strong legs. Males are slightly larger than females. Woodchucks typically weigh between 5-15 pounds and are between 16-20 inches in total length. They have long, coarse body fur that is grayish brown or reddish brown in color. Their body fur has two coats: a dense grey undercoat and a longer coat of banded guard hairs, giving it a frosted appearance. They have four clawed toes on the front feet, used for digging their burrows, five toes on the hind feet, and a short, well-furred tail that is 4-7 inches in length. Their tail is only $\frac{1}{4}$ of their body length, much shorter than other members of the squirrel family. Woodchucks, like other rodents, have chisel-like incisors. Their eyes and ears are located on the top of the head, allowing them to see danger over the rim of their burrow while staying inside.

Habitat. Woodchucks inhabit the edges of open areas such as farmlands. Fencerows, thickets, and woodlots provide cover. Burrows are in or near open grassy fields, road and railroad embankments and stonewalls. They are often found in kudzu patches in the Piedmont of Georgia.

Reproduction. Woodchucks typically breed in their second year, though a small percentage of yearlings may breed in excellent habitat. They typically breed in February-April. Woodchuck males may travel long distances in search of a mate. Males and females stay in the same den throughout the 32-day gestation period. Once the single litter of 2-6 (usually 4) young is born, the male leaves the den. The young are born blind and hairless. Weaning begins in late-June, and after July, the young leave the den and disperse.

Feeding. Woodchucks are herbivores, feeding in the early morning and evening hours, with preferred food consisting of grasses, clover, soybeans, and alfalfa. As an adult, a woodchuck can consume 1-1 $\frac{1}{2}$ pounds of vegetation daily. Their feeding habits can have a significant impact on soybean and alfalfa farmers. They may take bark, twigs, leaves, and even small mammals and insects on occasion.

Behavior. A terrestrial, diurnal animal, the woodchuck is often seen basking in the sun during the warmer times of day. Woodchucks are least active on cool, rainy days, and will spend much of their time inside their burrow.

Woodchucks are one the few mammals that enter true hibernation. Hibernation typically begins in late fall and lasts until March. In Georgia, hibernation periods are very short due to mild winters. Males typically come out of hibernation before females.

Woodchucks are alert animals, though they are slow runners, and do not stray very far (usually < 200 yds) from their burrows. They are excellent climbers and can be seen in low or high branches of trees and shrubs. Being so short and stocky, they look like they crouch close to the ground, giving them their name of “groundhog.”



Figure 2: Woodchuck in a tree. Photo from Missouri Department of Conservation.



Managing Wildlife Damage: Woodchuck (*Marmota monax*)

One of the most obvious signs of woodchuck activity is the burrow. These burrows are used for sleeping, rearing young, and hibernating. Though woodchucks are typically solitary animals, multiple individuals may occupy the same burrow system. They maintain very sanitary den and burrow systems. Burrows may be up to 5-feet deep and range from 8-66 feet long. Their burrow systems can cause damage to farm operations, equipment, livestock, and create erosion problems around ponds. Burrows have one main entrance (with the characteristic mound or fan of dirt). There are one to three other entrances – usually well hidden from view. Several generations of woodchuck may occupy the same burrow system.

A woodchuck's home range is 40 to 160 acres, though they often do not move more than 50-100 feet from their dens during the day. Adults use an average of eight burrow systems within their home range, and males occupy a home range that is 1.8 times larger than females according to a Connecticut study. Woodchucks prefer to flee from predators, but if one enters their burrows, they will defend themselves with their two large incisors and front claws. Woodchucks can also be territorial, fighting to establish dominance among members in the same burrow systems.

Enemies. Common predators include wolves, coyotes, bobcats, bears, weasels, dogs, large hawks, owls, and humans. Young woodchucks may be at risk from snakes, which can easily enter the burrow. When alarmed by predators, woodchucks make a high-pitched whistle, followed by a low “phew”, and then a low rapid sound like “tchuck, tchuck.” Woodchucks may be found near roadsides, and often fall victim to vehicle collisions.

Populations. Woodchucks usually live to 2-6 years of age. Today, there is much more suitable habitat available for woodchucks, and their numbers have been on the rise. Increased habitat can result from abandonment of agricultural fields, forest clearing, increased highway and utility corridors, and home development. Some suggest that the woodchuck population is higher now than it has ever been. Studies report 1.7 woodchucks per 2 acres in a Maine study and 1 woodchuck per 2 acres in a Wisconsin study. Though sport hunting is used as a population control tool, their ability to reproduce quickly has kept their numbers high.

DISEASE

Woodchucks may suffer from some parasites, but information is limited. Woodchucks may suffer from Woodchuck Hepatitis Virus. Woodchucks pose no significant disease threat to humans, livestock, or pets.

ECONOMIC VALUE

“Groundhog Day” celebrations have given the groundhog some recognition and popularity. Their status as a game animal gives them some economic value, though sport hunting of woodchucks is limited.



Figure 3: Woodchuck burrow. Photo from University of Illinois Extension.



Managing Wildlife Damage: Woodchuck (*Marmota monax*)

DAMAGE ISSUES

Woodchucks often cause no damage at all, but sometimes they can cause severe damage to forage crops, nursery crops, farming equipment, and home gardens. One of the largest damage impacts woodchucks can have is related to their burrowing activity. Woodchuck burrows are distinguished by a large mound of fresh dirt near the main entrance of the burrow. Although woodchucks are often considered nuisance wildlife, they do provide some benefits. They are excellent burrowers. Their burrows are used by many other species of wildlife, such as rabbits, opossums, raccoons, skunks, foxes, and some birds, for protection from predators. Woodchucks contribute to the aeration and mixing of soil with these burrows. They can have significant aesthetic value to humans, as they are one of the few larger wildlife species seen during the day.

MEDICINAL VALUE

None

LEGAL ASPECTS

Woodchucks are not protected in Georgia. There is no season or bag limit.

CONTROL

Exclusion. There are many ways to control woodchucks. The easiest way is exclusion. Three-foot-high poultry wire fences, combined with electrical wiring, can keep woodchucks out of selected areas. This has limited applications and is most useful for home gardens.

Toxicants. There are no registered repellants or toxicants, though there are many types of fumigants available.

Fumigants. Pesticide use is regulated by the Georgia Department of Agriculture (<https://agr.georgia.gov/pesticide-products>). Specific information on pesticide use can be found at the registered pesticide page - <https://agr.georgia.gov/search-registered-pesticides>.

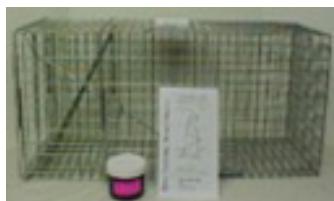
Fumigants should be used in spring before the young emerge, and during the hottest parts of the day when the woodchuck is least active to ensure that the woodchuck is in the den. The most common fumigant used is the gas cartridge, which is a General Use Pesticide and can be purchased at many local farm supply stores. This fumigant can only be used in burrow systems and should only be used on burrow systems that are not located near any buildings or combustible materials. All burrows within a burrow system need to be located and all entrances except the main one should be sealed with sod. You should kneel at the main entrance, light the gas cartridge, and place it in the main entrance as far down as possible. Then seal the main entrance with sod as well and watch all the other entrances and reseal where necessary.

The second type of fumigant used is Aluminum Phosphide. This is a Restricted Use Pesticide and can only be applied by a certified pesticide applicator. The certified pesticide applicator will place 3 to 4 tablets deep into the main burrow and then will seal all other burrow openings with crumbled newspapers. This will euthanize the woodchucks with hydrogen phosphide gas. You should check with your local pesticide agency or County Extension Service before hiring someone to use this fumigant, as the legal application of this fumigant for woodchucks differs among states.



Managing Wildlife Damage: Woodchuck (*Marmota monax*)

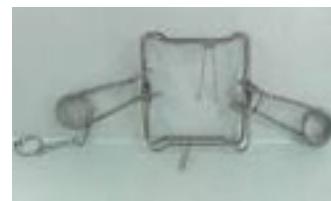
Trapping. Another way to control woodchuck damage is by trapping. An experienced trapper can use steel leg-hold traps, Conibears, or live traps. Trapping techniques should be used in areas where fumigants are inadvisable, and all traps should be located near the main entrance of an active burrow system. For trapping woodchucks, use No. 2 steel leg-hold traps. If you use Conibears, which kill the animal quickly, use a 220 Conibear to capture adults or a 110 Conibear to capture small, young woodchucks. Live traps should be baited with melons (cantaloupes, watermelons), tomatoes, grapes, apples, or carrots and placed near an active burrow. Live trapping can sometimes be difficult due to the aggressive nature of woodchucks when trapped. All traps should be checked twice daily. By law in Georgia, traps must be checked once per 24-hours. Before relocating a captured animal to other suitable habitat, check with your local state wildlife agencies for further instructions in your state. Relocating wildlife in Georgia is generally illegal. Relocation is stressful to the animal and is generally considered an ecological “death sentence” and, therefore, is not recommended. Lethal control or exclusion are preferred.



Live trap



Leghold trap



220 Conibear

Lethal Control. Shooting is another viable option for reducing woodchuck damage. Even where these animals are classified as game species, there may be no closed season or bag limit, although a hunting license is required. If shooting can be handled safely, this is the easiest way for landowners to control woodchuck damage on their own. A blaze orange vest or hat is recommended and may be required while hunting. A .22-caliber rifle is the typical firearm used in sport hunting of woodchucks, though 12-gauge shotguns with No. 4 and No. 6 shot can also be used. Medium caliber rifles with heavy barrels and high-quality optical sights are popular with some hunters.

MANAGEMENT

Most management activities are aimed at controlling the pest population, not on the enrichment of the species.

HUMAN USE

Recreation, sport hunting, wildlife watching, enhances habitat for other species. Woodchuck is often a popular food item in many areas. Sport or varmint hunting is a popular activity and many fine rifle cartridges have been developed for use when ‘chuck’ hunting.

Managing Wildlife Damage: Woodchuck (*Marmota monax*)

FURTHER READINGS

- Barnes, T. G. 1999. Managing woodchuck problems in Kentucky. University of Kentucky College of Agriculture Cooperative Extension Service.
- Bollengier Jr., R. M. 1994. Woodchucks. Prevention and Control of Wildlife Damage Handbook. B-183-187.
- Byford, J. L. Combat Wildlife Damage with Commonsense Control Methods. University of Tennessee Knoxville Extension publication.
- Flaute, C., N. Hunt and L. Stephens. 2005. Urban Wildlife Management in Athens-Clarke County, Georgia. River Basin Center, University of Georgia Institute of Ecology.
- Loven, J. 2000. Woodchucks. Animal Damage Management, Department of Entomology, Purdue University Cooperative Extension Service. ADM-16.
- Mengak, M. T. 2007. Dealing with Nuisance Wildlife. The University of Georgia Cooperative Extension. Extension Bulletin No. 1248.
- Mengak, M. T. 2018. Wildlife Translocation. Wildlife Damage Management Technical Series. USDA APHIS WS National Wildlife Research Center. Fort Collins, CO. 15 p.
- Swihart, R. K. 1992. Home-range attributes and spatial structure of woodchuck populations. Journal of Mammalogy 73: 604-618.

OTHER RESOURCES

Georgia Wildlife Resources Division – Wildlife Fact Sheets

https://georgiawildlife.com/sites/default/files/wrd/pdf/fact-sheets/2007_woodchuck.pdf

Woodchucks – Massachusetts Audubon

<https://www.massaudubon.org/nature-wildlife/mammals-in-massachusetts/woodchucks-groundhogs>

What to do about Groundhogs – The Humane Society

<https://www.humanesociety.org/resources/what-do-about-groundhogs>

North Carolina State University Cooperative Extension

<http://www.ces.ncsu.edu/nreos/wild/pdf/wildlife/WOODCHUCKS.PDF>

The University of Georgia Warnell School of Forestry and Natural Resources offers educational programs, assistance, and materials to all people without regard to race, color, national origin, age, gender, or disability.

The University of Georgia is committed to principles of equal opportunity and affirmative action.